INDEX

Covering the Principal Subjects and Articles Which Appeared in Volume 13 of WIRE AND WIRE PRODUCTS From January to December, 1938, Inclusive.

Furnaces—Open Hearth 116
Galvanizing 118
Galvanizing—Hot 225
Galvanizing Kettle 135
Galvanizing Take Ups 296
Galvanizing—The Effects of Alloying Elements on Hot Dip Galvanizing Properties of Steel Wire—Question 4229 747
Galvanizing Wire Cloth 397
Gang Welding—Wire For—Question 4227 82
Grades of Rope Wire 505
Grain Growth in Cold Heading Wire 526
Grain Growth in Rivets 344-399-455
Grain Structures in Copper Wire 583
Group Insurance in the Wire Industry ..... By Richard E. Brown 289
Handling "Stalling Loads" Electrically ..... By F. W. Jessop 80
Hardening Bolts—Scale-Free 75
Heat Radiation 135
Heat Treated Wire 236
Heat Treatment 192
Heat Treatment of Rope Wire 507
Heat Treatment of Spring Steel Wire—Question 4226 82
Heat Treatment of Springs 20-69
Heating Copper Wire Bars ..... By J. A. Doyle 571
Helical Springs—Research on Fatigue Properties of Heavy 17-69-125-183
High Carbon Steel—Tinning Plain—Question 4225 82
History of Wire Drawing 173
Hoists—Zip-Lift 462
Hot Galvanizing of Wire 225
How To Get The Greatest Benefits From The New Cemented Carbide Die Standing ..... By K. R. Beardslee 63
Hydrogen Embrittlement 206
Identification of Wire 444-723
An Important Factor In The Products of Bright Copper Wire ..... By Robert C. Williams 283
Imports and Exports of Wire 30-84-140-196-250-307-363-413-463-596-681-734
Increase in Width When Rolling Round Wire Into Flat Wire—Question 4230 748
Industrial Mobilization ..... By Louis Johnson 678
Industrial Uses of Wire Cloth 559
Influence of Austenitic Grains 714
Insurance—Group 289
An Investigation of the Use of Back Pull in Wire Drawing ..... By Leon Simons 229
Iron Carbon Diagram 711-712
Iron—Wrought 174
Kind and Necessity of Tests for Rope Wire, The ..... By H. K. Hammerstein 551
Lead Annealing 236
Liming 227
Liquor Finished Wire 237
Longitudal Scratches on Valve Spring Wire 245-299
Low Carbon Spring Wire 355-406
Lubricants 228-235
Lubricants for Bright Copper Wire 283
Lubrication 228
McQuaid-Ehn Grain Size Test 720
Machinery Selling in Europe 395
Manufacture of Spring Wire From Low Carbon Steel, The ..... By Dr. Hans Wiescke
Part I. 355
Part II. 406
Manufacture of Steel Wire and Some Related Processes ..... By J. L. Schueler
Part I. 173
Part II. 234
Manufacturers' Wire 226
Marino Galvanizing Process 628
Material Handling 59
Material Handling With Zip-Lift Hoists 462
Measurement of Scratches 258
Medal Award—1938 671
Messenger Cables 665
Metallography 192
Metallurgy 191
Metallurgy of Steel Wire
Part I. 655
Part II. 711
Metals 187
Modern Pickle Liquor Recovery ..... By S. F. Spangler and Dr. N. Titlestad 591
Muffle Annealing 236
New Developments in Roofing Nails—By James S. Maze 78
A New Electro Galvanizing Process ..... By George D. Hartley 628
New Method for Control of Oxidization and Heat Radiation on a Galvanizing Kettle ..... By W. H. Spowers, Jr. 135
New Signal Corps Field Wire ..... By Major George P. Bush 134
New Type Wire Drawing Machine 306
Nickel Silver (A Survey of Published Information) ..... By T. F. Pearson 423
Non-Ferrous Alloy Wires—Bright Annealing 360
Non-Ferrous Annealing in Controlled Atmospheres ..... By W. F. Ross 120
Normalizing 237
Notes on Die Stresses ..... By Kenneth B. Lewis 441
Notes on the Annealing of Copper Wire ..... By L. B. Barker 583
Novel Gas Furnace Improves Bright Annealing ..... By J. B. Neally 360
Open Hearth Furnaces 116
Open Hearth Steel 174
Ore to Wire 115
Oxide Coatings—Application of 11
Oxides in Scale 206
Oxides—Methods of Removing 177
Oxidization—Control of 135
Patenting 118-237
Patenting of Rope Wire 510
Physical and Chemical Nature of Scale 177
Physical Characteristics of Cold Heading Wire 523
Physical Characteristics of Metals 191
Physical Properties of Rope Wire 513
Pickling 227
Pickling—Electrolytic 180
Pickling Problem 177
Pittsburgh Regional Meeting of The Wire Association ..... By Richard E. Brown 238
Pot Annealing 236
Precipitation 192
Preparation of Tungsten Wire 13
Problem of Employment of Men Over 40, The ..... By Frederick A. Westphal 181
Processing 236
Processing Stainless Steel Wire 519
Program for The 1938 Wire Association Convention 411-459-601
Progress in The Wire Industry ..... By F. A. Westphal 598
Quality of Copper Wire 576
Radiant Tubes—Gas Fired 341
Radio Tubes—Wires For 9
Rams—Hydraulic and Air Driven 80
Rams—Steam Driven 80
RCA Wire Stiffness Tester 689
Recrystallization Temperatures 205
Refractory Coatings for Heater Wires 13

INDEX

Covering the Principal Subjects and Articles Which Appeared in Volume 13 of WIRE AND WIRE PRODUCTS From January to December, 1938, Inclusive.

Research on Fatigue Properties of Heavy Helical Springs ....By C. T. Edgerton
Part I. 17
Part II. 69
Part III. 125
Part IV. 183
Resilience of Springs ....By Rodman R. Tatnall 545
Review of Recent Wire Patents, A 32-88-144-201-255-312-369-417-468-619-683-740
Rivets—Grain Growth 344-399-455
Rod & Bar Mill (Bethlehem Steel Co.) 285
Rod and Wire Handling in the Wire Industry ....By A. F. Anjeskey 59
Rod—Bolt—Preparation of 522
Rod Cleaning 176
Rod Mills 116
Rod Products—Aluminum 27
Roofing Nails 78
Rope Wire ....By Walter R. Bloxdorf 505
Rope Wire 518
Rope Wire—Quality 551
Rope Wire—Tests for 551
'Round the World With the Wire Industry 34-86-142-198-252-309-367-415-465-615-685
Salts of Arsenic and Antimony 178
Scale & Decarburization, Control of 339
Scale-Free Hardening Bolts—Continuously ....By W. F. Ross 75
Scale—Physical and Chemical Nature of 177
Scratches on Valve Spring Wire 245-299
Selling American Machinery in Europe—By James Day 395
Signal Corps Field Wire 134
Solenoids 80
Some Characteristics of Wire and Their Relation to Cold Heading ....By Howard L. Hopkins 521
Some Scientific Aspects of the Pickling Problem ....By E. Herzog 177
Specifications—Wire 37
Spheroidizing 237
Spot Welding Wire 227
Spot Welding—Wire For—Question 4227 82
Spring Steel Wire—Heat Treatments of Question 4226 82
Spring Wire 245-299-518
Spring Wire for Valves 299
Spring Wire—Low Carbon 355-406
Springs—Heavy Helical 17-69-125-183
Springs—Resilience of 545
Stainless Steel Wire ....By J. K. Findley 517
Standards—Carbide Die 63
Steel—Annealing (S. A. E. X-1020) 531
Steel—Annealing (S. A. E. 1112) 531
Steel—Annealing (S. A. E. 3135) 531
Steel—Crucible 174
Steel—Electric Furnace 175
Steel Making Processes 174
Steel Mills 98
Steel—Open Hearth 174
Steel Wire Manufacture 173-234
Steel Wire Metallurgy 655-711
Sull Coating 237
Synopsis of Papers of The Institute of Metals of Great Britain, A 316
Take Ups for Tinning and Galvanizing 296
Telephone Wire 226
Temperature Controls for Annealing Copper Wire 584
Temperatures—Recrystallization 205
Tempered Wire 237
Tempering Steel Wire 718
Tensile Properties of Cap Screws 528
Tentative Specifications of Interest to Wire Men 37
Tension Apparatus 229
Tester for Stiffness of Wire 689
Testing Electric Cables in G. E. Laboratories 426
Tests for Rope Wire 551
Thermal Reactions 711
Thermionic Emission 10
Tinning Plain High Carbon Steel—Question 4225 82
Tinning Take Ups 296
Torque Motors 81
Tube Annealing 236
Tubes—Wires for Radio 9
Tungsten Wire—Preparation of 13
Under Critical Annealing of Cold Drawn Steel 531
Untreated Wire 236
Use of Back Pull in Wire Drawing 229
Use of Metals 187
Visiting European Bolt Plants ....By A. P. Newall 241
Valve Spring Wire 245-299
Varnished-Cambric Cable 292
Waste Pickle Liquor 585-591
Welding 191
Welding—Wire for Spot or Gang—Question 4227 82
Westphal Becomes President of The Wire Association 194
Wire and Rod Products—Aluminum 27
Wire—Annealed Steel 236
Wire Association—1938 Convention 671
Wire Association Membership 605
Wire Association Program for Annual Convention 411-459-601
Wire Association, The 599
Wire—Bolt 521
Wire—Bright Steel 237
Wire—Calsun Bronze 665
Wire—Chromium Copper Alloy 565
Wire Cloth—Its Many Kinds and Uses ....By Ralph B. Roth 559
Wire Coating—Activation of 13
Wire—Cold Heading 227-521
Wire—Coppered 237
Wire Drawing 234
Wire Drawing—History of 173
Wire—Extruded 227
Wire Finishes 227
Wire for Bolts, Nuts, Screws and Rivets 517
Wire for Spot or Gang Welding—Question 4227 82
Wire for Springs 518
Wire for Welding Rods 517
Wire for Wire Cloth 517
Wire for Wire Rope 518
Wire Gauge Error 262
Wire—Liquor Finished 237
Wire—Manufacture of Steel 173-234
Wire—Manufacturers 226
Wire Mill—Function of A 225
Wire Mills 117
Wire—Open Hearth Acid Steel 175
Wire Rope at Low Temperatures ....By Anton Pomp and Alfred Krisch 295
Wire—Signal Corps Field 134
Wire—Spot Welding 82
Wire Spring Steel 82
Wire—Stainless Steel 517
Wire—Steel Coated Aluminum 579
Wire Stems for Real Flowers ....By Bob McLean 119
Wire Stiffness Tester 689
Wire—Telephone 226
Wire—Tempered 237
Wire—Trolley 665
Wire—Tungsten 13
Wire—Untreated 236
Wires for Radio Tubes ....By J. Delmonte 9
Worm Driven Take Ups Used In Continuous Patenting, Tinning and Galvanizing of Round Wire ....By G. A. Broden 296
Woven Wire Products ....By R. M. Richter 397
Wrought Iron 174
Zip-Lift Hoists 462